IMPROVED CLAMSHELL APPARATUS FOR ELECTROCHEMICALLY TREATING WAFERS

ABSTRACT OF THE DISCLOSURE

An apparatus for engaging a work piece during plating facilitates electrolyte flow during a plating operation. The apparatus helps to control the plating solution fluid dynamics and electric field shape to keep the wafer's local plating environment uniform and bubble free. The apparatus holding the work piece in a manner that facilitates electrolyte circulation patterns in which the electrolyte flows from the center of the work piece plating surface, outward toward the edge of the edge of the work piece. The apparatus holds the work piece near the work piece edges and provides a flow path for electrolyte to flow outward away from the edges of the work piece plating surface. That flow path has a "snorkel" shape in which the outlet is higher than the inlet. In addition, the flow path may have a slot shape that spans much or all of the circumference of holding apparatus. It may be made from a material that resists deformation and corrosion such as certain ceramics.

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